

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of the claims in the application.

Listing of Claims:

1.-19. (Cancelled)

20. (Original) A package for protecting a sensor comprising a flexural resonator, the package comprising: a flexural resonator on a platform, the flexural resonator having one or more exposed sensing surfaces in spaced relationship to the platform so that the exposed sensing surface can displace a fluid in contact therewith to determine one or more characteristics of the fluid, an application specific integrated circuit (ASIC) on the platform, the ASIC being in electrical communication with the flexural resonator for providing stimulus to the flexural resonator and for receiving a response signal from the flexural resonator, and a secondary component positioned independently from the ASIC on the platform, the secondary component being selected from the group a temperature sensor, a field programmable gate array, a calibration unit, a conductive path, a resistor, a capacitor, an amplifier, a filter, and combinations of two or more thereof, the secondary component being in optional electrical communication with the ASIC.

21. (Original) The package of claim 20, further comprising a housing spaced from the exposed sensing surface.

22. (Original) The package of claim 21 wherein the housing includes a plurality of walls that substantially surround the

flexural resonator while maintaining exposure of the exposed sensing surface to the fluid.

23. (Original) The package of claim 20 wherein the ASIC comprises a temperature sensor, or wherein the secondary component comprises a temperature sensor.

24. (Original) The package of claim 20 further comprising a protective layer covering the flexural resonator and the platform while maintaining the exposed sensing surface such that the exposed sensing surface can displace the fluid in contact therewith.

25. (Original) The package of claim 24 wherein the protective layer covers, partially or completely, the ASIC or the secondary component.

26. (Original) The package of claim 20 wherein the flexural resonator is capable of operating at temperatures between -60.degree. C. and 300.degree. C.

27. (Original) The package of claim 26 wherein the flexural resonator is capable of operating at temperatures between -40.degree. C. and 170.degree. C.

28. (Original) The package of claim 20 wherein the flexural resonator on the platform has a length or width smaller than 5 mm.

29. (Original) The package of claim 28 wherein the flexural resonator on the platform has a length or width smaller than 1 mm.

30. (Original) The package of claim 20 wherein the package has a volume of about less than 15 cm.sup.3.

31. (Original) The package of claim 30 wherein the package has a volume of about less than about 10 cm.sup.3.

32. (Original) The package of claim 20 wherein the package has a footprint of less than about 40 cm.sup.2.

33. (Original) The package of claim 32, wherein the package has a footprint of about less than about 20 cm.sup.2.

34. (Original) The package of claim 20 wherein the flexural resonator is selected from tuning forks, cantilevers, bimorphs, or unimorphs, membrane resonators, or torsional resonators.

35. (Original) The package of claim 20 wherein in the package is adapted for use in engines, automobiles, heavy machinery, military equipment, airplane parts, oil drilling, exploration and production well logging, oil refining, pipeline and quality control equipment, marine transportation, or sub-sea exploration and aerospace related equipment.

36. (Original) The package of claim 20 further comprising a Faraday cage.

37. (Original) The package of claim 20 wherein the package is adapted for use in an engine, a transmission, a transfer case, a differential, a brake system, a steering system, an antifreeze system, a heating and cooling system, and a washer

system.

38. (Original) The package of claim 20 wherein the package is adapted for use in lubricants, brake fluids, steering fluids, antifreeze fluids, refrigerant fluids, and washer fluids.

39. (Original) The package 20 wherein the flexural resonator is a tuning fork.

40. (Cancelled)